

Region 1 Translator Association  
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November 30, 2004

Federal Communications Commission

RE: ET Docket 04-186, Unlicensed Operation in the TV Broadcast Bands

Dear Sir:

In the above-cited Notice of Proposed Rulemaking, the Commission proposes to allow unlicensed operation of unspecified broadcast devices in the television broadcast bands. We applaud the vision of seeking to make more efficient and effective use of the limited wireless spectrum. However, we believe that the proposed rules do not afford sufficient protection to current and future TV (DTV) reception especially in rural areas. In this respect we state our full agreement with the timely filed comments of the National Translator Association by its President, Byron W. St. Clair.

Nevertheless, our comments here are based on actual experience with television reception problems in rural America.

Region 1 Translator Association (Region 1) is licensee or Construction Permit holder of more than 55 TV translator stations in the three (3) northeastern most counties of Colorado. Region 1 works closely with the adjoining counties of Logan and Washington and their respective County Commissioners who are licensees of 24 TV translators. Together, in the past 25 years, we have developed eleven (11) transmitter sites providing TV service to this vast rural area.

The first translator site receiving input from full power stations is 194 km from those transmitters, well out of their Grade B. Special high-gain receiving systems with low noise antenna amplifiers are necessary to produce a retransmittable signal. (Recent tests show that DTV can be received here also.) Any unlicensed transmitters operating on input channels near any of these translator or viewer sites would shut them down. The FCC will have to track translator input channels if the current Rulemaking is adopted.

The 11 translator sites are spaced so the interleaved signals from one site can be rebroadcast at another. All of the sites are spaced well beyond the protected contour of each other. Yet, the translator-input signals are good. The layout is such that viewers living near each another may get their TV from different sites because of which side of the hill faces the respective site. Except for a few small cities, the majority of viewers are well out of any protected contour of these transmitters.

We include an illustration (see attachment) of the disparity between the proposed Rulemaking's protected contour (74 dBu) and the actual service area (64 dBu via Longley-Rice) of our Yuma, Colorado translator K38AD. While this figure shows a calculated area actually served by K38AD and six (6) other translators on the same site, it would be a mistake think viewers only use signals greater than 64 dBu.

K38AD and its 6 companions are rebroadcast at five (5) locations, three of which are entirely outside of this 64 dBu area. Wray site is just in 64 dBu because of altitude but sites near Sterling (Northwest quadrant off of map), Holyoke (top of map) and Idalia (off map Southwest of Wray) are outside. Akron site (Northeast of Akron) is on the edge of this area. Also, please note that for 23 years viewers in this area endured a signal 7 dB below what it is now due to recent power increase. It is easy to see how fragile these signals are and how little RF interference can be tolerated. There are no "vacant" unused channels in northeastern Colorado.

Further, both from the viewers' point of view and that of the translator operator, tracing interference is a problem now because of "skip" interference. Atmospheric and weather related skip interferes with translator input and viewer's reception of the translator's output. Currently interference is relatively easy to see in the picture, identify and minimize. With the advent of digital transmission however, and the go or no-go of the "cliff" effect, TV viewers will be very upset over the lack of reception reliability and the inability to understand (see) the problem (although, hopefully, skip may be less of a problem with digital). To complicate the transition with possible extraneous interruptions now by unlicensed transmitters may well delay the digital transition.

This must be a major concern when formulating rules for unlicensed transmitters. One can not foresee what individuals might do to enhance the "intentional radiator" of an unlicensed device that becomes FCC "permitted." Once the "Genie" is out of the bottle, who can say it can be put back in or even controlled. We in rural America have had a tough enough time getting TV using the reduced number of channels we now have. Once the DTV transition is complete and free-over-the-air TV transmission is maximized—then it will be more clearly seen how "vacant" TV channels in certain locations can be used for other purposes in the public interest. In the meantime, "Part 15" devices, like wireless microphones, that don't radiate more than a few hundred feet, are used indoor, or are in a shielded environment fulfill a need and are secondary to TV broadcasting. Such devices have not been troublesome.

### CONCLUSION

TV channels must be protected from potential interference where they are used regardless of predicted field strength at the viewer's location.

Any attempt now to use TV channels for other than TV broadcasting until the DTV transition is complete and TV transmission has been optimized will hinder acceptance of digital and force viewers to accept substandard or fewer channel availability.

We believe field tests should be conducted in metropolitan areas, where "vacant" TV channels are likely to be available, to establish that "intentional radiators" described in the Rulemaking will work. We believe these should have minimal licensing so that said devices do not appear in areas that would cause interruption to anyone's TV viewing.

Respectfully,  
REGION 1 TRANSLATOR ASSOCIATION

John F. Rietz  
System Supervisor

**K38AD**

BLTT20011114AAK

Latitude: 40-08-35 N

Longitude: 102-48-51 W

ERP: 2.69 kW

Channel: 38N

Frequency: 617.0 MHz

AMSL Height: 1402.0 m

Elevation: 1283.0 m

Horiz. Pattern: Omni

Vert. Pattern: Yes

Elec Tilt: 0.0

Prop Model: Longley/Rice

Climate: Cont temperate

Conductivity: 0.0050

Dielec Const: 15.0

Refractivity: 311.0

Receiver Ht AG: 10.0 m

Receiver Gain: 0 dB


Time Variability: 50.0%

Sit. Variability: 50.0%

ITM Mode: Broadcast

Illustration of the Disparity  
Between the Protected Contour  
and the Actual Service Area  
Translator K38AD, Yuma, CO

Actual service area determined by use of  
Longley-Rice Terrain Dependent Algorithm  
in accordance with OET Bulletin 69

 > 64.0 dBu

74 dBμ Protected Contour

K38AD  
Yuma

Yuma

Washington

Scale 1:500,000

0 7 14 21 km

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